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IN THE

SUPREME COURT OF THE UNITED STATES

October Term, 1940

NO. 218

RAILROAD COMMISSION OF TEXAS, ET AL.,
Appellants

v.

ROWAN & NICHOLS OIL CO.,
Appellee

BRIEF FOR APPELLANTS

On Appeal from the United States District Court
for the Western District of Texas

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OPINION BELOW

The opinion of the United States District Court for the Western District of Texas is not reported. An informal oral opinion was rendered on February 21, 1940 (R. 524) and findings of fact and conclusions of law were entered on May 29, 1940. (R. 533)

STATEMENT OF GROUNDS FOR JURISDICTION

The jurisdiction of the Supreme Court of the United States is invoked under Sections 238 and 266 of the Judicial Code, as amended by the act of February 13, 1925. (U. S. Code, Title 28, Sections 345, 380) The judgment here appealed from was dated May 28, 1940, and was filed May 29, 1940. (R. 530) The appeal was allowed in this case by an order of the District Court entered on June 14, 1940. (R. 563) The record was filed in this court on July 8, 1940, and the order noting probable jurisdiction was entered on October 14, 1940.

STATEMENT OF THE CASE

1. Proceedings in the District Court

This is the second case between the same parties which has been brought to this court, the first being No. 681, October Term, 1939, *Railroad Commission of Texas* v. *Rowan & Nichols Oil Co.*, decided June 3, 1940. (310 U. S. 573, 60 S. Ct. 1021, 83 L. Ed. 983) Both cases involve attacks upon orders of the Railroad Commission of Texas prorating the allowable production of oil in the East Texas oil field. In the first case, the oil company attacked the method of proration then in effect, which was about 98% a straight per well allocation and about 2% on the basis of well potential. In this case, the oil com-

pany has attacked a modified method of proration, first adopted by an order dated September 11, 1939, which allocates the production about 75% on a per well basis and about 25% on the factors of well potential, sand thickness, acreage and pressure.

No diversity of citizenship is involved, the Rowan & Nichols Oil Company being a Texas corporation, and the defendants, the Railroad Commission of Texas and its members and the Attorney General of Texas, being all citizens of Texas. Federal jurisdiction rests solely on the asserted conflict of the Railroad Commission's orders with the Fourteenth Amendment to the Constitution of the United States.

In its complaint, filed on January 22, 1940, the plaintiff sought interlocutory and permanent injunctive relief against the Railroad Commission's order of December 20, 1939, which provided as follows with reference to the East Texas field:

"Rule 23. (A) Not more than 690,000 barrels of crude oil shall be produced from the East Texas field during any day of the effective period of this Order.

"(b) The total daily allowable for the field shall be distributed among the producing wells in the field on the following basis:

"1. Each well capable of producing twenty (20) barrels of crude oil per day shall be allowed to produce twenty (20) barrels per day.

"2. Each well incapable of producing twenty (20) barrels per day shall be allowed to produce that amount of oil which it is capable of producing in a 24-hour period, not in excess of twenty (20) barrels.

"3. In addition to the twenty (20) barrels provided for in one (1) above, each well in the field which is capable of producing in excess of twenty (20) barrels daily shall be allowed to produce daily that proportion of the total daily allowable for the field remaining after deduction for one (1) and two (2) above have been made, that the product of each well's hourly potential by its bottomhole pressure by the thickness of the saturated Woodbine Sand underlying the well by the average number of acres per well in the lease bears to the sum of such products for all of the wells in the field."

On February 6, 1940, an order was entered convening a three-judge District Court for February 12, 1940, to hear the plaintiff's application for a preliminary injunction. On February 12, 1940, the plaintiff filed a supplemental complaint, alleging that on January 24, 1940, the Railroad Commission had entered a new order continuing substantially the same method of proration as the order of December 20, 1939, quoted above, and seeking interlocutory and permanent injunctive relief against the new order.

In the answers which they filed to the complaint and to the supplemental complaint, the defendants alleged that the orders of the Railroad Commission

complained of were a proper exercise of the authority delegated to the Railroad Commission under the statutes of the State of Texas, to regulate the production of oil and gas, that such orders were reasonably necessary in order to prevent waste, and to protect the correlative rights of the owners of oil and gas properties within the East Texas field, and that such orders were not in violation of the statutes of the State of Texas or the Fourteenth Amendment to the Constitution of the United States.

This cause was heard jointly, under the provisions of Rule 42 (a) of the Rules of Civil Procedure, with the case of *Humble Oil & Refining Co.* v. *Railroad Commission of Texas,* which is now on appeal in this court as No. 57, October Term, 1940, *Railroad Commission of Texas, et al., Appellants* v. *Humble Oil & Refining Co.* It was agreed at the trial that evidence introduced by any party might be used for or against any other party. (R. 46, 48, 266)

The hearing of evidence was completed on February 16, 1940. The plaintiff submitted the case for decision on its prayer for temporary as well as permanent injunctive relief. On February 21, 1940, the court announced that it would refuse the interlocutory injunction, but that it would enter judgment in favor of Rowan & Nichols Oil Company, permanently enjoining the defendants from enforcing and executing the proration orders attacked. (R. 524) The court then stated, however, that it would withhold entering its decree for a period of 10 days, during which time the Railroad Commission could con-

sider whether it would submit to the judgment or would appeal.

On March 1, 1940, the Railroad Commission communicated to the court its intention to appeal the case. At the same time the Railroad Commission filed a motion for a stay pending appeal, alleging that unless a stay was granted, serious and irreparable damage would be done to the East Texas oil field and to the oil industry in the State of Texas as a whole, and that defendants would in effect be deprived of their right of appeal. The three-judge District Court was reconvened at Houston, Texas, on March 14, 1940. The defendants presented to the court their motion for a stay of judgment pending appeal, and the court announced that a stay would be granted for a period of 60 days from the date of the judgment. Final judgment was not entered in this case, however, until May 28, 1940, at which time a judgment was entered permanently enjoining the defendants from enforcing or executing the orders of the Railroad Commission attacked. (R. 530) This appeal is from said judgment.

2. Issues Presented

The issues presented in this appeal are basically the same as the issues involved in the case of *Railroad Commission of Texas* v. *Rowan & Nichols Oil Company*, 310 U. S. 573, 60 S. Ct. 1021, 84 L. Ed. 983.

No complaint is made of the validity of the conservation statutes of Texas, the spacing rule known as Rule 37, or the power of the Railroad Commission to fix the daily total field allowable at the figure set. (R. 3, 12, 20)

No attack was made upon the procedure of the Railroad Commission in promulgating the orders attacked. While the orders show that they were based upon hearings held after due notice (Plaintiff's Exhibit No. 8, offered R. 163, copied R. 446; Plaintiff's Exhibit No. 8-A, offered R. 163, copied R. 450; Plaintiff's Exhibit No. 10, offered R. 164, copied R. 457), the oil companies did not seek to introduce the records of the Railroad Commission hearings, but only portions of such records were introduced. (R. 312, 436, 443-445)

In the complaint (R. 6) and during the trial, it was conceded, (R. 208) and the court in effect found, that the factors entering into the proration formula (other than the 20-barrel base allowable) were proper. (R. 545) The evidence shows, and the court found, that the allowance to the "statutory marginal" wells (pumping wells which were incapable of producing in excess of 20 barrels per day) was so negligible as to have no practical effect on the result of the case. (R. 172, 200, 220, 525, 542)

No complaint is made in this case of any failure of the Railroad Commission to grant to Rowan & Nichols Oil Company permits to drill additional

wells upon its lease. (R. 439) In fact, the complaint shows that the plaintiff did not desire to drill any additional wells upon its lease, although it would thereby have received a larger allowable for its lease. (R. 8)

The basic objection to the method of proration is directed at the 20-barrel minimum per well allowable, which is granted to all wells capable of producing that amount daily. (R. 6, 11, 12, 38, 244) The result of this method of proration is that about 75% of the total field allowable is prorated on a per well basis and about 25% on the factors of sand thickness, potential, acreage and pressure. (R. 542) The court will recall that this is fundamentally the same objection as the one raised in the case of *Railroad Commission of Texas* v. *Rowan & Nichols Oil Co.*, 310 U. S. 573, 60 S. Ct. 1021, 84 L. Ed. 983, the distribution in the first *Rowan & Nichols* case being about 98% on the per well factor and about 2% on the well potential factor.

3. Application of Proration Orders to the Field

The application of the proration orders of the Railroad Commission resulted in the following distribution of the total daily field allowable of about 691,000 barrels: (R. 541)

1. Wells incapable of making 20 barrels per day

were allowed to produce to capacity. There were 514 such wells, which produced 6,245 barrels per day.

2. All wells capable of producing 20 barrels per day were granted a base or minimum allowable of 20 barrels. There were 25,456 such wells, the total base or minimum allowable for such wells being about 509,000 barrels per day. Thus about 75% of the field allowable was distributed on a per well basis.

3. Each well capable of producing more than 20 barrels per day was given an additional allowance. The total to be so distributed was arrived at by subtracting from the total field allowable (691,000 barrels) the sum of the production of the "statutory marginal" wells (6,245 barrels) plus the base or minimum allowable for all other wells (about 509,000 barrels), leaving a balance of prorataable oil of about 176,000 barrels daily. The amount above 20 barrels per day which each well was allowed to produce was determined by multiplying 176,000 barrels by a fraction whose numerator was the product of the well's hourly potential by its bottomhole pressure by the thickness of the oil sand underlying the well by the average number of acres per well in the lease and whose denominator was the sum of such products for all of the wells in the field. (R. 542) Thus, about 25% of the field allowable was distributed on the factors of well potential, sand thickness, pressure and acreage.

Under the method of proration attacked, no well received exactly 20 barrels allowable, but each well capable of producing more than 20 barrels per day received an additional allowable, depending on the factors stated above, the best wells receiving over 50 barrels per day and wells on leases densely drilled or having thin sands rceiving only a fraction of a barrel above the base allowable of 20 barrels. (R. 174, 325) In this respect the order of September 11, 1939, contrasted with the orders in effect prior to that time, because under such prior orders, some 19,000 wells received an allowable of exactly 20 barrels per day, no more and no less, and the best wells received only about 26 barrels per day. (R. 325)

Under the proration plan attacked, shut-down days were enforced against all wells in the field, except the "statutory marginal" wells. (R. 541) The result of such shut-down days was that the average daily production of the field and of each non-marginal well was reduced. The average total daily field allowable was reduced to about 400,000 barrels per day (R. 320), and the average minimum or base allowable was only 11.7 barrels over a 30-day period. (R. 338, 348, 350, 377)

4. Application of Proration Orders to Rowan & Nichols Oil Company's Lease

The Rowan & Nichols Oil Company's lease involved in this case is its Todd "A" lease, containing 28.25 acres. This lease is located approximately 1,100 feet north of its Todd "B" lease, which was

involved in the first *Rowan & Nichols* case. On its Todd "A" lease, the Rowan & Nichols Oil Company has drilled seven wells, to a density of one well to 4.03 acres. (R. 209) Geographically, this lease is located in the eastern half of the field, being about two-thirds of the way across the field from west to east. (R. 266) It is therefore in what is known as the eastern portion of the "fairway." Under the proration orders attacked, the seven wells on the Rowan & Nichols Todd "A" lease received a total daily allowable of 260.56 barrels, or about 37 barrels per well per day. (R. 2, 190) Under the method of proration involved in the first *Rowan & Nichols* case, the seven wells upon this lease received a daily allowable of about 155 barrels, or an average of about 22 barrels per well. (R. 206)

5. General Description of the East Texas Field

The general description of the East Texas field is a matter about which there was very little difference of expert opinion, and such facts are, of course, the same as the facts proved in the case of *Railroad Commission of Texas, et al.* v. *Rowan & Nichols Oil Co.*, 310 U. S. 573, 60 S. Ct. 1021, 84 L. Ed. 983. Briefly summarized, these facts are as follows: (R. 534)

The East Texas field is a vast body of oil located in the pore spaces in the eastern extremity of the Woodbine sand formation. The field is about 40 miles in length from north to south, has an average

width from east to west of about four miles, and has a surface acreage of about 133,000 acres. A cross section through the field from west to east shows the field to be roughly triangular in shape. The top or long side of the triangle, running upward from west to east, is formed by the Austin chalk formation, which is impermeable and confines the oil in the reservoir at the top. The bottom of the triangle, running approximately horizontally from the western edge of the field to about the middle of the field, is formed by the line of contact of the water in the Woodbine sand with the oil. The third side of the triangle is the Georgetown limestone formation, which begins at the water-oil contact line at about the middle of the field, and extends upward in an easterly direction to the point where it meets the Austin chalk.

The fact that the oil reservoir is triangular in cross section means that in general the amount of oil-saturated sand under any particular lease depends on its location in the field. The thinner sections of the field are in the western and eastern edges. From each edge, going toward the center of the field, the oil sand gradually becomes thicker and reaches its maximum thickness of about 100 feet at about the center of the field.

There are other factors which determine the amount of recoverable oil beneath any lease in addition to the amount of sand, and for this reason the amount of recoverable oil beneath any lease is not necessarily in proportion to the average thickness of

the oil saturated sand. The sand varies with respect to certain physical characteristics which affect the amount and the recoverability of the oil, such as the porosity and permeability of the sand, the size and location of impermeable streaks of volcanic ash and shale, and the amount of connate water. The percentage of oil recovered will also depend on the bottomhole pressure, which in turn depends on the location of the lease on the structure. The high pressure is on the west side, next to the water-oil contact line, and, since the pressure is not completely transmitted across the field, a pressure gradient is set up and the lowest pressures are on the east side of the field.

Almost all of the pressure in the East Texas field is furnished by the water drive, or the pressure of the water on the oil. The pressure arises from the fact that the surface outcrops of the Woodbine sand are about 3,600 feet higher than the oil reservoir in the East Texas field, and the entire Woodbine sand (except where it contains oil or gas) is saturated with water. As the oil is withdrawn from the reservoir, the water on the western edge pushes in to take its place. As the water advances, it pushes oil ahead of it. The lowest portions of the field, being on the western side of the field, naturally will be drowned out by water first, and the higher portions of the field in the center of the field will be drowned out last. In the center and on the eastern side, where water has not yet encroached, when oil is withdrawn other oil is pushed in to take its place, provided the sand is sufficiently permeable to permit

the passage of the oil. In a large section in the center and in the eastern half of the field, including the Rowan & Nichols Oil Company's Todd "A" lease (R 206, 209, 217,) there is still as much oil in place beneath the surface as there was when the field was discovered, although oil has been produced from such leases for about 10 years. The eastward migration of the oil, resulting in the long productive life of leases where the sands are thickest is, therefore, an important physical factor which affects the amount of oil which will be produced from any property in the East Texas field under any method of proration.

While abandonments on the west side are taking place because of the drowning of the wells by the encroachment of water, abandonments are also taking place on the east side because of the drop in pressure, due to the fact that pressure is not transmitted across the entire field. The history of the field shows that about two-thirds of the abandonments are taking place on the west side, and about one-third of the abandonments on the east side. (R. 365). The result is that the portion of the field, known generally as the fairway, where the Rowan & Nichols Todd "A" lease is located, will produce longer than any other portion of the field.

SPECIFICATION OF ERRORS TO BE URGED

The three-judge District Court erred:

1

In holding that the District Court has jurisdiction to pass upon the fairness and reasonableness of the administrative orders of the Railroad Commission of Texas involved in this section.

2

In holding that the proration orders of the Railroad Commission of Texas of September 11, 1939, September 29, 1939, December 20, 1939, and January 24, 1940, and the schedules issued in connection therewith for the East Texas field as interpreted, applied and enforced against plaintiff, are unreasonable, discriminatory, confiscatory and void as to plaintiff.

3

In holding that the proration orders of the Railroad Commission of Texas of September 11, 1939, September 29, 1939, December 20, 1939, and January 24, 1940, and the schedules issued in connection therewith for the East Texas field, as interpreted, applied, and enforced against the plaintiff, do not apportion or allocate the production of oil from

said field on a reasonable basis, as required by the statutes of the State of Texas.

4

In holding that the proration orders of the Railroad Commission of Texas of September 11, 1939, September 29, 1939, December 20, 1939, and January 24, 1940, and the schedules issued in connection therewith for the East Texas field, as construed, applied and enforced to control production from plaintiff's wells, deprive plaintiff of its property contrary to the statutes of the State of Texas.

5

In holding that the proration orders of the Railroad Commission of Texas of September 11, 1939, September 29, 1939, December 20, 1939, and January 24, 1940, and the schedules issued in connection therewith for the East Texas field, as construed, applied and enforced to control production from plaintiff's wells, deprive plaintiff of its property and discriminate against it in violation of the due process and equal protection clauses of the Fourteenth Amendment to the Constitution of the United States.

6

In holding that the proration orders of the Railroad Commission of Texas of September 11, 1939, September 20, 1939, and January 24, 1940, allocating among wells in the East Texas field the daily field

allowable, as construed, applied and enforced to control production from plaintiff's wells, inflict upon plaintiff daily and currently irreparable injury.

7

In holding that the proration orders of the Railroad Commission of Texas of September 11, 1939, September 29, 1939, December 20, 1939, January 24, 1940, allocating among wells in the East Texas field the daily field allowable, as construed, applied and enforced to control production from plaintiff's wells, inflict upon plaintiff injuries for which the plaintiff has no adequate remedy at law.

8

In holding that the proration orders of the Railroad Commission of Texas of September 11, 1939, September 29, 1939, December 20, 1939, and January 24, 1940, allocating among wells in the East Texas field the daily field allowable, as construed, applied and enforced to control production from plaintiff's wells, will, if continued substantially in effect, cause injury to the plaintiff in the future.

9

In holding that the plaintiff is legally entitled to recover currently an amount of oil which is in the same proportion to the total allowable for the East Texas field as the estimated recoverable oil under-

neath the plaintiff's lease is to the estimated recoverable oil under the East Texas field as a whole.

10

In holding that the plaintiff has exhausted its administrative remedy before seeking relief from this court.

11

In permanently enjoining the plaintiff from enforcing or attempting to enforce the proration orders and schedules complained of against the plaintiff and its properties in the East Texas field.

12

In permanently enjoining the defendants from enforcing or attempting to enforce all proration orders, rules, regulations and schedules which have been or may be promulgated by the Railroad Commission of Texas for the East Texas field in renewal or extension of the proration orders of December 20, 1939, and January 24, 1940, and the schedules issued in connection therewith, or which are or may be substantially the same effect as said orders and schedules, as the same have been construed, enforced and applied to control production from plaintiff's said property.

13

In holding that the program of regulation complained of by plaintiff is not necessary in order to prevent physical waste of oil and gas.

14

In holding that there was no substantial evidence to support the Commission's order complained of by the plaintiff.

15

In holding that there was no showing made in this action that the Commission had based its order on any finding.

16

In holding that there was no substantial evidence to support a finding by the Railroad Commission of Texas upon which its orders complained of by the plaintiff in this case could be based.

17

In holding that the quantity of recoverable oil in the field and in the various leases of the field can be determined with reasonable accuracy.

18

In holding that under the present plan of proration, the plaintiff will be prevented from recovering an amount of oil substantially equivalent to its original recoverable reserves or to its present recoverable reserves.

19

In finding, without sufficient evidence to support such finding, that under the present and prior orders of the Railroad Commission of Texas, prorating the production of oil from the East Texas oil field, the plaintiff has not produced "over 200,000 barrels of oil it otherwise would have produced had said orders allocated the allowable among producers on a basis giving substantial consideration to recoverable oil in place, true potentials, position on structure or similar factors which bear on the quantity of recoverable oil under tracts and the ability to yield such oil."

20

In finding, without sufficient evidence to support such finding, that if the present or a similar plan of proration is continued for the producing life of the field, plaintiff will be prevented from producing several hundred thousand barrels of recoverable oil originally and now under its lease.

21

In finding, without sufficient evidence to support such finding, that of the 25,900 wells in the East Texas field, about 15,000 of such wells could be closed in at the present time without creating waste.

22

In holding that the allocation of a base or minimum allowable of 20 barrels per well to each well in the field which was capable of producing 20 barrels or more per day is unreasonable and arbitrary.

23

In holding that there was no substantial evidence to sustain the base or minimum allowable of 20 barrels per well allocated by the Railroad Commission to each well in the field which was capable of producing 20 barrels or more per day.

24

In holding that the allowance of a minimum or base allowable of 20 barrels per day to all wells that can produce that amount of oil is not necessary to prevent waste.

25

In holding that the allowance of a minimum or base allowable of 20 barrels per day to all wells that

can produce that amount of oil daily is not necessary to prevent drainage from one section of the field to another.

26

In holding that the allowance of a base or minimum allowable of 20 barrels per day to all wells that can produce that amount of oil daily is not necessary to prevent premature abandonment of wells.

27

In holding that the allowance of a base or minimum allowable of 20 barrels per day to each well in the field capable of producing that amount daily denies to the plaintiff the opportunity to produce its fair or proportionate share of the daily allowable.

28

In finding, without sufficient evidence to support such finding, that wells have not and will not be prematurely abandoned in the East Texas field with a production of five barrels per day.

29

In finding, without sufficient evidence to support such finding, that the premature abandonment of wells on the west side of the field will not result in the physical waste of oil and gas.

In the rendition of the final judgment dated May 28, 1940, in favor of plaintiff and against defendants.

SUMMARY OF ARGUMENT

1. The District Court, in holding that the Railroad Commission's orders failed to prorate the allowable production "on a reasonable basis," as required by the Texas statutes, and that the orders violated the Fourteenth Amendment to the Constitution of the United States, erroneously substituted its judgment of reasonableness and fairness for the judgment of the Railroad Commission.

2. This case is controlled by the decision of this court in the case of *Railroad Commission of Texas* v. *Rowan & Nichols Oil Co.*, 310 U. S. 573, 60 S. Ct. 1021, 84 L. Ed. 983. The Railroad Commission orders in this case are attacked on the same basis as in the first *Rowan & Nichols* case. The essential ground of complaint in both cases is the allowance of a 20-barrel base or marginal allowable to all wells which are capable of making that amount. In the first *Rowan & Nichols* case this resulted in the distribution of about 98% of the total field allowable of a per well basis. This court overruled the contentions of the oil company in that case that such a method of distribution was arbitrary and confiscatory. If the Railroad Commission's orders were properly

sustained where they resulted in a distribution of the allowable 98% on a per well basis, then *a fortiori* they must be sustained where the distribution is only 75% on a per well basis, and 25% on the basis of factors which admittedly are properly considered.

3. Rowan & Nichols Oil Company has no standing to complain of the method of proration involved in this case because it is recovering at the present time and it will recover in the future its fair share of the oil in the East Texas reservoir.

4. The 20-barrel base or minimum allowable is reasonably necessary to permit a fair recovery of oil by wells located in the western and eastern portions of the East Texas field and on small tracts, and to prevent the physical waste of oil which will be recovered only through such wells.

5. The method of proration advocated by the Rowan & Nichols Oil Company and embraced by the District Court (that the allowable should be prorated on the basis of current oil reserves) would result in the confiscation of the property of many operators in the East Texas field because (a) it would make it impossible for operators in the western and eastern portions of the field to obtain the equivalent of the oil originally in place beneath their land, and (b) it would make it impossible for the owners of small tracts to drill and operate wells on their land. While taking the oil from such operators, it would allow operators whose leases lie in the fairway, such as Rowan & Nichols Oil Company, to recover much

more than the equivalent of the oil originally in place beneath their leases.

ARGUMENT

I

In passing upon the asserted conflict of the Railroad Commission's orders with the Texas Statutes and the Fourteenth Amendment to the United States Constitution, the District Court had no right to substitute its judgment for that of the Railroad Commission.

The District Court held that the Railroad Commission orders were invalid on the ground that they failed to allocate the allowable production "on a reasonable basis," as required by Section 7 of Article 6049c, Revised Civil Statutes of Texas, and that they deprived the plaintiff of its property, contrary to the Fourteenth Amendment to the United States Constitution.

The test of the validity of the Railroad Commission's orders under the Texas statutes is not substantially different from the test applied to determine whether they violate the Fourteenth Amendment. The two questions were treated as substantially the same by the District Court in this case. (R. 526). Under the decisions of the Supreme Court of Texas, the courts have no authority to substitute their ideas of reasonableness for those of the Railroad Commis-

sion, and the Railroad Commission's orders will not be set aside if reasonably supported by substantial evidence. In *Gulf Land Co.* v. *Atlantic Refining Co.*, 134 Tex. 59, 74, the Supreme Court of Texas said:

> "... Stated in another way, the court does not act as an administrative body to determine whether or not it would have reached the same fact conclusion that the Commission reached, but will consider only whether the action of the Commission in its determination of the facts is reasonably supported by substantial evidence."

In considering the validity of the orders under the Fourteenth Amendment, the District Court was not entitled to substitute its ideas of fairness for those of the Railroad Commission, even if there were convincing proof that a different result would have been better. In this connection, this court said in *Railroad Commission of Texas* v. *Rowan & Nichols Oil Co.*, 310 U. S. 573, 580, 583, 60 S. Ct. 1021, 1024, 1025, 1026, 84 L. Ed. 983, 985, 986, 987:

> "... A controversy like this always calls for fresh reminder that courts must not substitute their notions of expediency and fairness for those which have guided the agencies to whom the formulation and execution of policy have been entrusted....
>
> "Plainly these are not issues for our arbitrament....
>
> "... In striking the balances that have to be

> struck with the complicated and subtle factors that must enter into such judgments, the Commission has observed established procedure. If the history of proration is any guide, the present order is but one more item in a continuous series of adjustments. It is not for the federal courts to supplant the Commission's judgment even in the face of convincing proof that a different result would have been better."

In the following portions of our brief we shall attempt to show, by a summary of the evidence, that the District Court substituted its judgment of fairness and reasonableness for that of the Railroad Commission, even in the face of convincing proof that the Railroad Commission's plan of proration is reasonable and that it achieves a fair and equitable distribution.

In this connection, we direct the court's attention to the fact that, while there was no attack on the Railroad Commission's procedure and while the evidence (R. 310, 312, 435), including the orders themselves,[1] shows that regular hearings were held by the Railroad Commission, the records of these hearings were not introduced, except for portions of certain hearings. (R. 312, 435, 443) It is submitted that the District Court clearly had no authority to strike down the administrative orders where the plaintiffs failed to prove the records showing the evidence before the Railroad Commission upon which the orders were based.

[1]Plaintiff's Exhibit No. 8, offered R. 114, copied R. 446; Plaintiff's Exhibit No. 8-A, offered R. 114, copied R. 450; Plaintiff's Exhibit No. 10, offered R. 115, copied R. 457.

II

This case is controlled by the decision of this court in the case of Railroad Commission of Texas, et al. v. Rowan & Nichols Oil Company, decided June 3, 1940[2]

(1) *The same legal issues are presented as in the first Rowan & Nichols case.*

In the first *Rowan & Nichols* case, as in this case, the invalidity of the proration orders was assailed under the Texas statutes as well as the United States Constitution.[3] In that case, as in this case, there was no diversity of citizenship, and federal jurisdiction rested only upon the assertion of a conflict between the Commission's orders and the United States Constitution. In this court's decision in the first *Rowan & Nichols* case,[4] attacks upon the order claiming that it violated the Texas Statutes and the Fourteenth Amendment were rejected and the Railroad Commission's action was upheld. The same legal questions are here presented, and, as we shall show in the next sections of this brief, the factual situation requires the same result as in the *Rowan & Nichols case.*

(2) *The same features of the proration orders*

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[2]310 U. S. 573, 60 S. Ct. 1021, 84 L. Ed. 983.

[3]See *Rowan & Nichols Oil Co.* v. *Railroad Commission*, 28 F. Supp. 131, 133.

[4]*Railroad Commission* v. *Rowan & Nichols Oil Co.*, 310 U. S. 573, 60 S. Ct. 1021, 84 L. Ed. 983.

are objected to in this case as in the first Rowan & Nichols case.

By stipulation of the parties in the first *Rowan & Nichols* case, as well as by the findings of the District Court [5] and the Circuit Court of Appeals,[6] it was agreed that the method of distribution under attack in that case resulted in the distribution of about 98% of the total field allowable on the basis of a "marginal" or minimum allowance of 20 barrels. In reply to the contention that such a result "gives a constitutionally inadmissible advantage to smaller and more densely drilled tracts as against those owned by respondent," this court held that "a flat per well allowance to these producers was not an unnatural answer to the problem."[7]

In this case also the essential complaint is that the Railroad Commission allows to every well in the field capable of producing so much oil, a base or minimum allowable of 20 barrels, about 75% of the field allowable being distributed on this basis. This was the objection made in the plaintiff's pleadings (R. 6, 7, 10, 11, 12, 37, 41), at the trial by the plaintiff's witnesses (R. 200, 239), by the presiding judge at the trial (R. 244) and by the court in its oral opinion (R. 527) and in its findings and conclusions. (R. 542, 544)

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[5] *Rowan & Nichols Oil Co.* v. *Railroad Commission of Texas*, 28 F. Supp. 131, 134.

[6] *Railroad Commission of Texas* v. *Rowan & Nichols Oil Co.*, 107 F. (2d) 70, 71.

[7] See 310 U. S. 573, 582, 583, 60 S. Ct. 1021, 1025, 84 L. Ed. 983, 986.

(3) *In so far as the method of proration in this case differs from the method involved in the first Rowan & Nichols case, it is more favorable to Rowan & Nichols Oil Company than was the method of proration involved in the first Rowan & Nichols case.*

Under the method of proration involved in the Railroad Commission's order of June 19, 1939, which was the same as the order involved in the first *Rowan & Nichols* case, and which was continued until the order of September 11, 1939, was adopted, the field allowable of about 520,000 barrels per day was divided mainly on the basis of a straight per well allocation, and partly on the factor of the potential of each well. Beginning with the order of September 11, 1939, the Railroad Commission changed the method of proration in several material respects, and *all of the changes were in favor of the operators of leases in the fairway, and particularly to the plaintiff in this case.* These changes were as follows: (R. 206, 209)

(a) The total daily field allowable was raised from about 520,000 barrels per day to about 690,000 barrels per day, which had the result of increasing the amount of proratable oil (above the 20-barrel per well allowable) from about 7,000 barrels to about 176,000 barrels.

(b) In prorating the oil above the 20-barrel per well allowable in the order of September 11, 1939, the Railroad Commission considered not merely the factor of well potential, but also the factors of sand

thickness, acreage and pressure. The factors of sand thickness and acreage directly benefited the leases which have the thick sands and which are not densely drilled. (R. 174, 324)

(c) Under the *Rowan & Nichols* order, there were about 19,000 wells which received a flat 20-barrel allowable, no more and no less. The result of this method of distribution was that no discrimination was made between wells which were capable of producing only 20-barrels per day, and wells which were capable of producing around 20,000 barrels per day, in so far as their current allowable was concerned. On the other hand, under the present order, each well gets an allowable above 20 barrels on the basis of the factors named, the poorer wells receiving only a fraction of a barrel above 20 barrels, and the best wells on the less densely drilled leases receiving more than 50 barrels. (R. 174, 325)

(d) The new order materially increased the allowable production of the Rowan & Nichols Oil Company's Todd "A" lease, both absolutely and relatively.

The court's finding in this respect is equivocal and inaccurate. The court found that "while the Commission increased the daily allowable, and thereby gave plaintiff more oil each day, all other wells that could produce it got more oil, and plaintiff's ratio of the daily field allowable remained practically the same." (R. 543) The facts are that while under the old order, the Todd "A" lease was permitted to

produce only about 22 barrels per well per day. (R. 206), under the new order each well was permitted to recover about 37 barrels per well per day. (R. 206) Although the total field allowable was increased only about 30%, the allowable of the Rowan & Nichols Todd "A" lease was increased about 70%. (R. 206, 207) The amount of "proratable" oil allocated to this lease increased from about 14 barrels per day to about 120 barrels per day, or about 850%. (R. 207). The percentage of the total field allowable allocated to this lease increased about one-third.[8]

In this connection, the court also found that under the old order, if the total allowable had been increased to 690,000 barrels per day, instead of 522,000 barrels per day, the plaintiff would have been allowed to produce more oil than under the present order. (R. 543) This statement is true only because the plaintiff's lease is more densely drilled than the average of the field, and the old order took into account only the per well and per well potential factors, and disregarded acreage.[9] The court's find-

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[8]Under the old order, the lease produced 154 barrels out of a total field allowable of 520,000 barrels, or .029%. Under the new order, the lease produces 260 barrels out of a total field allowable of 690,000 barrels, or .037%.

[9]In this connection it is interesting to note that the court found that a proration on the basis of per well or per well potential factors would be wasteful. The court's finding is that " . . . considering the varying densities to which properties in the field have been drilled, there will be non-ratable withdrawals from the field, if much of the allowable be prorated on the per well or per well potential basis, or any basis giving too much value to wells or potential, thus resulting in an uneven or irregular rise of the water table." (R. 536) In other words, the court finds in effect that the Railroad Commission, by adding the factor of acreage, tended to prevent waste. Mr. Rowan admitted that the new factors added by Railroad Commission were proper. (R. 208)

ing merely amounts to a statement that, because of the dense drilling upon the plaintiff's lease, an increase in the total allowable under the old order would have led to an even greater relative increase in the plaintiff's allowable than it had actually received under the order attacked—not that the plaintiff has not been actually benefited by the changes in the proration orders.

Summing up all of the changes made by the Railroad Commission in its proration orders of September 11, 1939, and subsequent orders, as compared with the orders in effect prior thereto, it appears that the new orders added factors giving weight to acreage and sand thickness, thereby directly benefiting leases in the fairway, and that particularly the Rowan & Nichols Oil Company's lease received substantial benefits, even though its lease is densely drilled. It therefore seems clear that if the Railroad Commission acted properly, as this court held in the first *Rowan & Nichols* case, in distributing the allowable 98% per well and 2% on the basis of potential, then it clearly acted properly in distributing the allowable 75% on a per well basis and 25% on the basis of factors which were admittedly valid and which were so found by the District Court. (R. 545)

III

Rowan & Nichols Oil Company has recovered and is recovering its fair share of the total field allowable under the Railroad Commission's plan of proration, and, if the plan

of proration attacked is continued in effect, Rowan & Nichols Oil Company will recover from the wells drilled on its lease at least the equivalent of the recoverable oil originally in place beneath such lease.

(1) *Basis of Claim of Injury.*

The Rowan & Nichols Todd "A" lease is located about 1,150 feet north of the Todd "B" lease which was involved in the trial of the former *Rowan & Nichols* case. The Todd "A" lease has an area of about 28.25 acres, on which seven wells have been drilled. (R. 187) All of these wells except two were drilled as exceptions to Rule 37, well No. 7 having been completed on August 25, 1934. (R. 210, 211) Since the density of drilling in the field is even now only one well to 5.17 acres, by drilling its lease in 1934 to a density of one well to 4.03 acres, the *Rowan & Nichols Oil Company's "A" lease has long maintained a decided density advantage over the East Texas field as a whole.* (R. 209, 210)

The dense drilling of the Rowan & Nichols Oil Company's lease means that the present method of proration is favorable to this lease and that on almost any basis of comparison, this lease is obtaining a very high recovery. If the allowable were distributed either on a *straight acreage basis or a straight per well basis,* the lease would receive only about

60% as much daily allowable as it is now receiving.[10]

In fact, the only basis on which it is complained that Rowan & Nichols Oil Company is not presently recovering its fair share of the total field allowable is *on the assumption that it is legally entitled to produce currently an amount of oil in the ratio of its estimated current oil reserves to the current oil reserves of the entire field.* It was on this assumption that all of the plaintiff's pleadings were based (R. 7, 8, 13, 14, 39), and the case was decided by the District Court. (R. 527, 545)

It is our position that the Railroad Commission is not legally required to prorate on the basis of current reserves and that it may properly consider in framing the plan of proration the amount of oil ultimately to be recovered by each section of the field. If the Rowan & Nichols Oil Company, considering the entire production from its leases, will obtain an amount of oil equivalent to the recoverable oil originally beneath its leases, it will have received the full measure of its legal rights. *Brown* v. *Humble Oil & Refining Co.*, 126 Tex. 296; *Gulf Land Co.* v. *Atlantic Refining Co.*, 134 Tex. 59. The means of accomplishing this result is a matter which lies within the proper administrative discretion of the Railroad Commission. *Railroad Commission of Texas* v.

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[10]This lease is receiving .037% of the field allowable. On a straight acreage basis, it would receive .021% of the field allowable. and on a straight per well basis, it would receive .026%.

Rowan & Nichols Oil Co., 310 U. S. 573, 60 S. Ct. 1021, 84 L. Ed. 983.

The evidence shows beyond any real dispute that the Rowan & Nichols Oil Company is not only receiving today a reasonable share of the present allowable, but also that it has not been injured up to the present time and that it will ultimately recover an amount of oil which is substantially equivalent to the amount of recoverable oil originally beneath its leases.

(2) *Past Recovery.*

The Rowan & Nichols Todd "A" lease has recovered approximately 493,120 barrels to January 1, 1940. (R. 198, 226) This represents a recovery of about 17,456 barrels per acre, as compared with an average recovery per acre for the East Texas field to date of only about 7,000 or 8,000 barrels. (R. 211) In other words, *this lease has already produced an average recovery per acre of more than 100% in excess of the average recovery per acre for the entire East Texas field.*

At the same time that this remarkably high recovery has been taking place on its Todd "A" lease, every barrel of oil withdrawn through the wells on this lease has been replaced by oil which has been forced under the lease from other leases to the west by the water drive. The result is that the *Rowan & Nichols Todd "A" lease has just as much oil between*

it and just as many acre feet of saturated oil sand beneath it today as when the field was first opened.

These facts were admitted by all of the witnesses who testified regarding them. (R. 82, 206, 209, 217, 267) Whereas the entire East Texas field has suffered a net depletion of about 31% in the number of acre feet saturated with oil, the Rowan & Nichols Oil Company has suffered no actual loss. (R. 286) The Rowan & Nichols Todd "A" lease has just as many acre feet of oil saturated sand as ever. (R. 206, 209, 285)

Since the foregoing physical facts were undisputed, it was only by adopting very special definitions for the terms "depletion" and "recoverable oil" that the expert for Rowan & Nichols Oil Company was able to make the assertion that there had been any "depletion" of the Rowan & Nichols lease, or any loss of "recoverable oil."

In speaking of depletion, Mr. Buck, the Rowan & Nichols Oil Company's expert, used "depletion" with reference to the East Texas field in one sense, and "depletion" with reference to the Rowan & Nichols Oil Company's lease in a different sense. With reference to the field, in speaking of depletion, he meant the actual decrease in the number of acre feet of net effective oil sand. (R. 285) In speaking of the Rowan & Nichols Oil Company's lease, however, he meant simply production from the lease, even though such production had been completely replaced by other oil coming from leases to the west. (R. 286)

"Depletion," as referred to the Rowan & Nichols Oil Company lease, had no relation whatever to actual physical depletion in the number of acre feet or in the amount of oil underneath the lease.[11]

In the same way, Mr. Buck did not confine "recoverable oil" to the equivalent of the oil originally in place beneath the lease, but included oil which would be drained to the lease from other leases. (R. 286) The only basis upon which it was asserted, therefore, that Rowan & Nichols Oil Company had less "recoverable oil" than originally was that there was less oil to the west to be drained to the Rowan & Nichols Oil Company's lease. (R. 217)

Mr. Buck's estimates that the Rowan & Nichols lease had "lost" 269,035 barrels (R. 227), according to his own testimony, simply meant that the Rowan & Nichols Oil Company Todd "A" lease had produced 269,035 barrels less than it would have

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[11] Following out logically his definition of the term "depletion," Mr. Buck testified as follows: (R. 286, 287)

"Q. If you applied the same method of depletion that you have applied to the Rowan & Nichols lease on that chart there, you could figure out that almost any lease on the east side of the field there could be depleted, although it still had the same amount of oil under it that it originally had, because it had produced part of its oil?

"A. *Some of those leases have been depleted 200 per cent and have still got as much oil as they ever had.*

"Q. According to your way of figuring, there are some leases over there that have been depleted 200 per cent?

"A. Yes, sir.

"Q. I didn't know you could deplete anything more than a hundred per cent.

"A. *Some of it has been depleted 200 per cent, and still has as much oil as it had originally.*"

produced if it had been allowed from the beginning of the field's production to produce in proportion to its estimated recoverable reserves. (R. 228) This of course involves merely a mathematical calculation, and had nothing whatever to do with actual physical depletion. Likewise, the statement that the Rowan & Nichols Oil Company lease had been "depleted" 20%, merely meant that the Rowan & Nichols Oil Company had produced 20% of its estimated total recovery, and had nothing whatever to do with the actual physical depletion in the amount of actual oil beneath the lease. (R. 286)

The fact that there had been no actual physical depletion is further demonstrated by the testimony of Mr. Buck himself, who estimated that whereas the Rowan & Nichols Oil Company had originally only .052606% of the recoverable oil in the field (R. 225), it now has .0610501% of the recoverable oil now remaining in the field. (R. 226). In other words, the percentage of recoverable oil beneath the Rowan & Nichols Todd "A" lease has increased during the production over the past 10 years.

(3) *Present Rate of Recovery.*

The Rowan & Nichols Oil Company with seven wells on it is permitted to produce at the rate of about 37 barrels per well, or a total of about 260 barrels of oil per day. (R. 2, 190) This rate of recovery is almost double the average rate of recovery for the entire East Texas field, the average

recovery for the field being about 5.1 barrels per acre, whereas the recovery for the Rowan & Nichols Oil Company is about 9.5 barrels per acre, per day.

Having suffered no actual depletion in the past, and being allowed to produce at an even higher rate than formerly,[12] the Rowan & Nichols Oil Company has no right to complain of the way in which it is being treated by the Railroad Commission at this time. Furthermore, as we shall show in the next section of this brief, during the producing life of its lease it will recover at least the equivalent of the recoverable oil originally in place beneath the lease, and therefore will receive the full measure of its legal rights.

(4) *Total Ultimate Recovery.*

Although the District Court found that "there is necessarily much uncertainty involved" (R. 527) in future production, it also found that the plaintiff's lease "in all reasonable probability will not, under the present plan of proration, ultimately recover substantially the equivalent of the recoverable reserves originally or now under" it. (R. 546) Elsewhere, the court found that the plaintiff will "probably be prevented from producing several hundred thousand barrels of recoverable oil originally and now under its lease. . . . " (R. 543). It is submitted that these findings are not justified by the

[12]See p. 31, supra

evidence, being based on doubtful estimates and assumptions which are contrary to the way in which the field will actually be produced.

The Rowan & Nichols estimates of total ultimate recovery of its lease were based upon estimates of reserves made by Mr. Buck. These estimates are remarkable because of the wide variation between his estimates made in this case and in the first *Rowan & Nichols* case. In about one year's time, Mr. Buck completely revised all of his estimates as to recoverable oil in the East Texas field. He increased his estimate of the total recoverable oil in the field about *one billion* barrels, or about 33 1/3%. (R. 280, 281) He also increased his estimate of the recoverable oil remaining in the East Texas field about *one billion* barrels, or about 50%. (R. 283) He likewise increased his estimate of the average net sand thickness in the East Texas field and the net effective sand under the Rowan & Nichols Todd "A" lease about 30%. (R. 284) His only explanation for the wide variation between his expert testimony in 1940 and in 1939 was that he had obtained other information in the intervening time, and not that there had been any change in the physical facts. (R. 284)

In view of the way in which Mr. Buck radically revised his estimates of reserves in a year's time, the inevitable conclusion is that his predictions as to future losses of the Rowan & Nichols lease may be subject to similar revisions and are certainly not

a sufficiently definite basis for holding the Railroad Commission's order to be arbitrary and confiscatory. When experts can so readily change their basic estimates, it would seem that a safe course for the Railroad Commission to follow is to refrain from altering its proration methods until expert estimates become less mercurial.

Even if we concede for the sake of argument that Mr. Buck's basic estimates may be correct, his method of calculating future "losses" of Rowan & Nichols Todd "A" lease is based on assumptions as to future production which are entirely contrary to the physical facts which will govern the production from this lease. Mr. Buck assumes in his calculations that a total field allowable of 690,000 barrels per day will be continued in effect every day until the field is completely exhausted, that this allowable will always be divided 75% on a per well basis, and that all of the wells in the field will produce the same length of time. (R. 230, 231, 264, 289, 290)

These assumptions are entirely foreign to the way in which the field actually will produce. It will be impossible for the field to produce 690,000 barrels of oil daily in the latter stages of production. (R. 264). The policy of the Railroad Commission has been to maintain a 20-barrel base allowable, not to distribute the field allowable with a fixed percentage on a per well basis. Mr. Buck admitted that he had not tried to calculate what the recovery would be if a 20-barrel minimum were kept in effect. (R.

289, 290) He further admitted that, because of the steadily increasing number of abandonments as the field is produced, if the 20-barrel minimum were maintained, the amount of proratable oil to be divided among the wells still producing would steadily increase, and that the rate of production of the Rowan & Nichols lease would become progressively greater as other parts of the field were depleted. (R. 288, 290) Mr. Buck's calculations, therefore, that the Rowan & Nichols Todd "A" lease will "lose" 900,000 barrels of oil (R. 229, 230), and that it will recover only 61.85% of its "recoverable reserves" (R. 236), are mere mathematical calculations, based on assumptions which Mr. Buck himself admitted were contrary to the way in which the field will actually be produced.

If the untenable assumptions made by Mr. Buck are eliminated, a consideration of the physical facts in connection with the Rowan & Nichols Todd "A" lease, leads to the conclusion that because of its long productive life, as well as because of its high current recovery, it will produce at least the equivalent of the recoverable oil originally in place beneath the lease. This lease is located in the eastern portion of the fairway, being two-thirds of the way across the field from west to east (R. 266) and about 1,500 feet east of the farthest point of water encroachment in its vicinity. (R. 82) The top of the sand under the Rowan & Nichols lease is 140 feet above the present water level. (R. 232) The water level has risen only about 10 feet during the 10 years in

which the East Texas field has produced to date. None of the wells on the Rowan & Nichols lease have gone on the pump; all are flowing wells. Considering all these physical facts, Mr. Hudnall, the expert for the Railroad Commission, testified that the Rowan & Nichols lease would not be flooded out by water until at least 90% of the field had been flooded out, and that if the abandonments on the east side were taken into consideration, as well as the abandonments on the west side, at least 95% of the field would be abandoned prior to the Rowan & Nichols Oil Company lease. (R. 368) Dr. Patten likewise testified that the Rowan & Nichols lease is one of the best leases in the field, because it produces now at a high rate and will have a long productive life. (R. 356) Mr. Hudnall testified that it will be at least 50 or 75 years before water will flood the Rowan & Nichols lease, that it will be producing among the last areas in the field to produce (R. 369), and that the Rowan & Nichols lease (R. 369, 400, 401, 403) will recover during its productive life at least the equivalent of the recoverable oil in place beneath the lease. (R. 372, 373).

IV

The 20-barrel base or minimum allowable is reasonably necessary to permit a fair recovery of oil by wells located on the western and eastern sides of the East Texas field and on small tracts, and to prevent the physical

waste of oil which will be recovered only through such wells.

(1) *The Minimum or Base Allowable.*

Under the order attacked (Plaintiff's Exhibit No. 10, offered R. 115, copied R. 457) each well in the field which is capable of producing 20 barrels of oil per day is allowed a base or minimum allowable of 20 barrels. (R. 541)[13] By reason of the fact that the shut-down order of the Railroad Commission allowed production from such wells for only 17 days out of the month, the average minimum allowable was reduced to 11.7 barrels per day. (R. 338, 348, 350, 377, 526)

The practice of the Railroad Commission of fixing a base or minimum allowable of 20 barrels to each well capable of producing that much oil has been in effect under the orders of the Railroad Commission and the proration schedules ever since June, 1933. (R. 414) There is no statutory requirement that every well in the field be allowed at least 20 barrels per day, Article 6049b applying only to "marginal" wells, which are defined in the statute as pumping wells which are incapable of producing more than 20 barrels per day.[14] The reasons impelling the Railroad Commission to grant the 20-barrel

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[13]This base or minimum allowable is popularly called the "marginal" allowance, and was so referred to by witnesses in the *Rowan & Nichols* case which was tried in 1939.

[14]See infra, p. 69.

allowable are stated in the first order adopting the method of proration under attack in this case, the order of September 11, 1939 (Plaintiff's Exhibit No. 8, offered R. 114, copied R. 446). In this order it is recited that the Commission finds from the evidence submitted at its hearing that in order for each producing well to be allowed to produce its fair share of the allowable oil from the East Texas field, and in order to prevent waste, the method of allocation and distribution of the field allowable between producing wells should incorporate a minimum well allowable. Said order continued the practice theretofore existing of fixing the minimum allowable at 20 barrels.

(2) *Objections to the Minimum Fixed by the Railroad Commission.*

The issue in this case is not whether *some* minimum allowable should be granted by the Railroad Commission, but simply whether the minimum fixed by the Railroad Commission is excessive. In the court's oral opinion, delivered February 21, 1940, the court states, "It is not now urged that no basic flat per well allowable should be made, but only that three-fourths of the whole should not reasonably be so apportioned." (R. 526)

The essential objection to the minimum allowable, therefore, is the same as the objection made to the same allowable in the first *Rowan & Nichols* case,[15] namely that it takes up so much of the total field

[15] 310 U. S. 573, 60 S. Ct. 1021, 84 L. Ed. 983.

allowable (in this case 75%) that there is not enough left to distribute on the basis of the other factors considered in the proration formula. It is claimed that the result of this distribution is that an unduly large recovery is permitted for leases on the edges of the field or leases which are densely drilled, at the expense of leases in the "fairway." This is clearly shown by the court's oral opinion (R. 526, 527) and in the court's findings and conclusions. (R. 545)

In this connection, it should be kept in mind that the objection raised by the Rowan & Nichols Oil Company and other similar operators is not that the regulation of the Railroad Commission permits them to recover less oil than they could recover without regulation, but simply that they are not permitted to recover what they consider to be their fair share of *the increase in the production resulting from regulation.* Mr. Buck, expert for Rowan & Nichols Oil Company, testified that even under a straight per well allocation, all parts of the field would receive a larger recovery than they would under unregulated flow (R. 273), while Dr. Patten testified that by reason of the regulation of the Railroad Commission, the ultimate recovery from the East Texas field had unquestionably been increased. (R. 315) The objections to the allowance by the Railroad Commission of a minimum allowable therefore resolved themselves into the contention that too much of the *increased recovery* is allowed to go to tracts which are densely drilled and to tracts having thin sands in the outer portions of the field.

(3) *The minimum fixed by the Railroad Commission is not higher than is reasonably necessary to permit the operation of wells throughout the field, and in order to prevent their premature abandonment.*

As we have already pointed out, the average minimum allowable, considering the shut-down days, is only 11.7 barrels per day. This allowable is given to all wells in the field which are capable of making that amount. The reasons for granting an allowable of this amount may be briefly summarized as follows:

(a) It is necessary to give this allowable to pumping wells in order that they may not be prematurely abandoned, resulting in the confiscation of the property of the owners of such wells, and a loss of oil which can be recovered only through such wells.

(b) It permits owners of small tracts to drill and operate wells on their own tracts.

(c) It is granted by the Railroad Commission to other wells, because the Railroad Commission feels that it would be unreasonable to reduce the better wells below the amount granted to the poor wells, in the absence of proof that a relative reduction of such better wells is necessary in order to prevent physical waste.

The evidence shows that there are 4,422 wells in

the field producing water (R. 337) and that there are 6,788 pumping wells. (R. 367)

The finding of the District Court apparently is that the Railroad Commission should have reduced the minimum allowable to somewhere between five and ten barrels. (R. 527, 545)

There is no clear or convincing evidence in the record supporting the court's contention that a five-barrel minimum is sufficient. Mr. A. H. Rowan, President of Rowan & Nichols Oil Company, testified that a five-barrel minimum allowable would be sufficient (R. 203), but he later admitted that this included merely the operating costs and did not include any items for repaying the cost of drilling the well and equipping it with pumping apparatus, or paying reasonable interest and return on the investment. (R. 205) At one time, he testified that a pumping well could be operated on five barrels per day with a profit of $75 to $100 per month (R. 205), but he afterwards admitted that this was impossible, since the gross income from such a well would not exceed $95 per month, and that what he really had in mind was flowing wells and not pumping wells. (R. 218, 219)

Mr. Buck, the expert for Rowan & Nichols Oil Company, refused to testify as to whether or not a five-barrel minimum would be adequate for pumping wells in the field, as a general proposition. (R. 241) No expert for the oil companies who claimed to have any knowledge of the subject, testified as to

the amount necessary to permit operation of pumping wells in the East Texas field without causing premature abandonments.

The burden was certainly upon the persons attacking the orders of the Railroad Commission to show that the orders were so unreasonable and arbitrary as not to have a rational basis. *Railroad Commission of Texas* v. *Rowan & Nichols Oil Co.*, 310 U. S. 573, 60 S. Ct. 1021, 84 L. Ed. 983. The evidence offered by the oil companies was at best indefinite and uncertain.

To support the allowance of the minimum permitted in the orders, the Railroad Commission offered the evidence of Mr. J. S. Hudnall, who had long experience in engineering and valuation work in the East Texas field, who testified definitely that the allowable permitted by the Railroad Commission was necessary to prevent abandonment of pumping wells, particularly on the west side of the field where water has encroached and the pumping costs are higher than in other portions of the field (R. 378, 409, 410), that while a minimum of five to ten barrels might be sufficient in the center of the field where wells are flowing, it is not sufficient for wells located on the edge of the field (R. 410), that in his own experience he had had to plug a well which was making 10 barrels per day (R. 410), and that if the present minimum were reduced there would be danger of premature abandonment of between 3,000 and 4,000 wells. (R. 412) Dr. Patten testified that because of the shale breaks causing traps of oil in the western por-

tion of the field, the abandonment of such wells would cause the loss of oil that can be recovered only from these wells. (R. 339)

(4) *The minimum allowable fixed by the Railroad Commission does not have the effect of confiscating the property of operators in the fairway for the benefit of operators in the west side or the east side of the field.*

(a) *West Side*

The order of the Railroad Commission attacked in this case does not fix a flat per well allowable, but grants allowables which range from about 20 barrels per well for wells on the edges of the field to over 50 barrels per well for wells located in the center of the field. (R. 325) In other words, a substantial distinction is made in favor of leases having thick sands and wells with high potentials, the better wells being allowed to produce in some instances as much as two and one-half times as much as wells on the edge of the field. (R. 174) The District Court found, however, that insufficient weight was given to the factor of sand thickness, and that as a result, the base or minimum allowable permitted a drainage of oil from the fairway to other portions of the field. (R. 544)

It is submitted that the court's finding wholly disregards the physical facts in the field, and particularly those relating to the producing lives of the various parts of the field. While the Railroad Commis-

sion's order does not at present allocate the allowable in proportion to the estimated acre feet of sand beneath the various portions of the field, the fairway leases, by reason of their long productive life, will ultimately recover an amount of oil substantially equivalent to the recoverable oil in place beneath their leases.

It is recognized by all of the experts that the principal source of energy in the East Texas field is the water pressure (R. 535) which is exerted by the water on the west side of the field laterally and vertically, and that as the field is produced, oil is forced eastward by the water pressure. (R. 535) The effect of this water encroachment is that in those portions of the fairway where water has not yet encroached, there is still as much oil in place beneath such leases as there was originally, although the field has produced over nine years. (R. 82) It also inevitably follows that the leases in the fairway are drawing oil from the leases on the west side, that the leases on the west side will be first drowned out by water by reason of its encroachment from the west, and that if the leases on the west side of the field are not permitted to produce now at a relatively high rate as compared with other portions of the field, they will never be able to produce their oil. (R. 61, 67, 396, 420)

Abandonments are taking place on the west because of water encroachment (R. 54, 337), about 450 wells having been abandoned prior to the trial. (R. 365) The marginal allowable to the west side

wells permits them to recover at the present time at a relatively high rate, thereby offsetting to some extent their handicap by reason of their short productive life and by reason of the fact that the production in other portions of the field at the same time draws oil from underneath their leases. (R. 333)[16]

(b) *East Side*

The leases on the east side of the field also have a shorter life than the leases in the center of the field, but for a different reason. The oil sand in the East Texas field is not completely permeable, and the result has been that as the field has been produced, a pressure gradient has been set up, the high pressures being on the western side of the field next to the water-oil contact line, while the lowest pressures are no the east side of the field. While the original bottomhole pressure in the field was about 1,650 pounds per square inch, at the time of the trial the pressure gradient ranged from about 1,200 pounds per square inch on the west to an average of about 900 pounds per square inch on the east. (R. 535) The lack of pressure on the east side of the field has the result that the wells on the east side of the field are less pro-

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[16]Testifying at another trial with reference to a per well allowable, the Humble expert, I. L. Sorenson, said: (R. 306)

"The thinner sand areas to the westward if allowed to be drilled to the same density as the thick sand section would be a fair proposition because the *lower structure wells would be drowned out at an earlier time and the thick sand section wells would produce longer and thereby recover their fair share of the oil.*"

Mr. Buck estimated that, while the west one-third of the field lost 50% of its oil under open flow, it lost only 15% to 25% under proration with a 20-barrel minimum per well. (R. 293)

ductive[17] and go on the pump sooner than the wells in the center of the field. As the field is produced, the lack of pressure on the east side of the field has caused and will cause wells to be plugged and abandoned before the water from the west side ever reaches them. (R. 391) Unless the wells on the eastern side of the field are permitted to produce at a relativly high rate currently, the formation of a gas cap due to the reduction of pressure on the east side will have the effect of forcing oil down structure and away from such leases. (R. 333)

The lack of pressure on the east side is not only due to the difficulty of forcing the oil and water through the sand even in the most permeable parts of the field, but is also due to the fact that the amount of shale and other impermeable material increases from about 10% or 15% in the center or thickest section of the field to about 75% on the eastern side. (R. 84-85) The result of these factors is that the wells on the east side of the field have a shorter life than wells in the center of the field. (R. 181) In fact, there have been 163 wells abandoned on the east side of the field (R. 365), even though this part of the field is the highest part and would be the last to be abandoned if abandonments were solely due to the encroachment of water.[18]

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[17]East side wells will average a production of only 900 barrels per acre foot, whereas the average recovery per acre foot for the whole field will be about 1,000 barrels and for the west side about 1,100 barrels, according to Humble's T. V. Moore. (R. 165)

[18]Even the Humble has had to abandon wells on the east side due to lack of pressure. (R. 80)

Although the attempt was made to confine abandonments on the east side to a strip of several hundred feet (R. 181), Mr. Hudnall testified without contradiction that abandonments have taken place as much as a mile east of the eastern edge of the field. (R. 386) This is not confined to any particular portion of the east side of the field, but extends all up and down the east end of the field. (R. 391) The past history of the field indicates that approximately one-fourth to one-third of the abandonments will take place on the east side of the field (R. 365) and that the zone of abandonment will gradually encroach from the east side, as well as from the west side, toward the center of the field, where the longest production will take place.[19]

The "fairway", not only by virtue of its greater current production in comparison with other portions of the field, but also because of its long producing life, will produce at least the equivalent of the recoverable oil in place beneath that section of the field.[20] As the western and eastern sides of the field

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[19]To a certain extent, leases located in the eastern portion of the field, where the sands are still thick and permeable, have a structural advantage which will probably allow them to produce longer than leases to the west of them. As far as this advantage is concerned, however, it is a natural advantage by reason of position on the structure, and is an advantage which could not be eliminated by the Railroad Commission by any method of regulated production which permits current production by all portions of the field. (R. 162, 246, 278, 319)

[20]Probably the most convincing evidence that the leases in the fairway, with the thick sand, will not lose oil to the leases in the eastern side of the field is the testimony of I. L. Sorenson: (R. 306-307)

"Q. Then, according to your contention, one well in an area where there is 100 feet of sand will drain an area just as far as a well

are abandoned, those wells which are left in the fairway where the Rowan & Nichols wells are located, will receive a larger percentage of the current allowable, because of the fact that there will be fewer wells among which to divide the total field allowable. (R. 421)

(5) *Considering the East Texas field as whole, the minimum allowable fixed by the orders of the Railroad Commission does not permit wells drilled upon densely drilled tracts to recover a disproportionate share of their total allowable.*

The Railroad Commission order does not ignore acreage, but makes it one of the factors in determining the allowable of each well. (R. 542) By the application of this factor, wells on less densely drilled tracts are given a higher allowable than wells on densely drilled tracts. (R. 174, 325) The complaint against the Commission's plan in this respect is essentially that not enough weight is given to acreage.

Rowan & Nichols Oil Company is certainly not in a position to complain as to the manner in which the Railroad Commission has permitted the East Texas field to be drilled. Whereas the field even

located in an area where there is ten feet of sand, all things being equal?

"A. *Yes, sir, the longer life will make up the difference.*

"Q. Does that apply to the *east side* of the field, too?

"A. It applies to the east side in the sands if they are higher on the structure and the permeable sands they will have a very long life, *but beyond the fairway going eastward the dense tight sands will have a shorter producing life. They will die out sooner. That is being effected now. We are feeling that on a good many leases at this time.*"

now is drilled to an average density of one well to 5.17 acres, the Rowan & Nichols Todd "A" lease is drilled to a density of one well to 4.03 acres, which density it has maintained since 1934. (R. 187, 209, 210) It is also more densely drilled than the surrounding leases,[21] and therefore has more than an equal opportunity to recover its fair share of the oil. (R. 210) All but two of its wells were drilled on application of the company as exceptions to the Railroad Commission's spacing rule. (R. 211) Rowan & Nichols Oil Company has not applied for nor has it been refused any additional wells on its Todd "A" lease. (R. 439) While there may be other tracts that receive even more advantage by reason of an even denser drilling, Rowan & Nichols Oil Company has no right to complain where it has not been dealt with unfairly. *Kuehner* v. *Irving Trust Co.*, 299 U. S. 445; *Railroad Commission of Texas* v. *Rowan & Nichols Oil Co.*, 310 U. S. 573, 60 S. Ct. 1021, 84 L. Ed. 983.

Furthermore, there was no justification for the court to find that a large number of the wells drilled under orders of the Railroad Commission could be abandoned without waste. (R. 544) The Railroad Commission's spacing rule (Rule 37) is not a means

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[21] I. L. Sorenson, the Humble expert, admitted that he had previously testified that sand thickness was of no importance in considering the density to which a lease should be drilled: (R. 307)

"Q. In arriving at the number of wells a man is entitled to drill in any given area you give no consideration whatever to the thickness of the sand, that is not a factor you would take into consideration?

"A. *No, I would consider the adjoining tracts to the lease in question. If you maintained that average you will get your fair share of the oil.*"

of fixing a ten-acre spacing, but rather a means of permitting the Railroad Commission to adjust the density of drilling to the particular conditions in each locality to insure the maximum recovery of oil from the reservoir.[22]

Under Rule 37, permits to drill wells are granted by the Railroad Commission only after a hearing and as a result of a finding by the Railroad Commission at such hearing that the drilling of each well is necessary to prevent physical waste or to prevent the consfication of the property of the operator making the application for the well. Persons who are dissatisfied with the orders of the Railroad Commission granting permits to drill wells as exceptions to Rule 37, are authorized by the statute[23] to appeal to the District Court of Travis County, Texas, and in many cases the oil companies have taken advantage of this provision of the statute. Some of the permits have been canceled by the courts, while others have been upheld. Each of the permits which is now in effect represents a finding by the Railroad Commission, either unassailed in court or supported in court upon attack, that the well in question is necessary either to prevent waste or to prevent the confiscation of property. For the purposes of this case, therefore, it must be assumed that each of the permits

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[22]See *Gulf Land Co.* v. *Atlantic Refining Co.*, 134 Tex. 59, 69:
"*Simply stated, the Commission must supervise the development of oil and gas fields. In order to do this, it has the power to devise some reasonably definite plan or pattern to start with. It has devised a plan or pattern by which it starts by allowing wells to be drilled, as a matter of course, at certain minimum distances.* After that, in order to drill wells, special permits must be had." (Our emphasis)

[23]Article 6049c, Section 8, Revised Civil Statutes, *infra*, p. 73.

for each of the wells in the field was validly granted upon facts duly sustaining the orders of the Railroad Commission, and that the operator of each of these wells has a vested right therein which the Railroad Commission cannot disregard in distributing the allowable production in the East Texas field.

The granting by the Railroad Commission of a minimum allowable to all the wells in the field has encouraged the development of the field, with a consequent increased recovery of oil which otherwise would not be produced. For example, since January 1, 1934, some 3,550 wells have been drilled around the margins of the East Texas field, thereby extending the developed portions of the field. These wells will produce about 100,000,000-150,000,000 barrels of oil, and a substantial part of their production would not have been produced at all if these wells had not been drilled. (R. 377) In other parts of the field, where local traps exist, the drilling of wells at a relatively high density is necessary in order to prevent the waste of oil which cannot be recovered, even through wells on the property of other operators. (R. 339)

While very densely drilled leases may for the time being produce at a greater rate than less densely drilled tracts, the very densely drilled areas will produce for a shorter period of time than the less densely drilled areas. (R. 173, 378) The longer life expectancy of the less densely drilled tracts is therefore a compensating factor which tends to offset any

current advantages received by very densely drilled leases.

V

The proration of the production from the East Texas field on the basis of current reserves would give unfair advantage to the leases in the fairway, where the lease of Rowan & Nichols Oil Company is located, and would result in the confiscation of the property of other operators.

(1) *The Position taken by Rowan & Nichols Oil Company and the District Court*

The Rowan & Nichols Oil Company has consistently contended that the allowable from the East Texas field should be substantially prorated on the basis of the current reserves beneath its leases as compared to the reserves in the entire field.[24] The District Court in effect adopted this contention as to the proper basis of proration. In its findings and conclusions, after the trial on the merits, the District Court measured Rowan & Nichols Oil Company's right to recover solely by the standard of whether it was permitted to recover in proportion to its current reserves. (R. 546)

(2) *Inaccuracy of Estimates of Reserves*

[24] See complaint (R. 7, 8, 13, 14) and supplemental complaint (R. 39)

The court finds that oil reserves can be accurately calculated (R. 537), but the testimony of all experts showed that any estimates of reserves are subject to "inherent errors" (R. 167, 170) and admittedly may be inaccurate as much as 10%. (R. 58, 145) Even after the acre feet of sand are estimated as accurately as possible, the estimates of oil reserves may be far from accurate, due to varying factors affecting recovery. (R. 329, 358, 259) Mr. Buck admitted that estimates of reserves may be inaccurate as much as 30%. (R. 292) This was emphatically shown by the fact that Mr. Buck had raised his estimate of the ultimate recovery from the East Texas field by *one billion barrels* since the trial of the first *Rowan & Nichols* case in 1939, or about 33-1/3%. (R. 284)[25] He also increased the estimate of recoverable oil remaining in the East Texas field about *one billion barrels* over his estimate of the previous trial, or about 50%. (R. 283) It is submitted that estimates that are subject to such wide variations within a year's time are not a safe guide for the Railroad Commission in formulating its proration orders, and certainly they do not form a sufficiently definite and certain basis for holding the Railroad Commission's action to be arbitrary.

(3) *Unfairness and Wastefulness of Proration Based on Current Reserves*

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[25]Even at this trial; Mr. Buck's estimates of total and remaining reserves were about 350,000,000 barrels below the Humble's similar estimates: Buck, total reserves, 4,628,054,299 barrels. (R. 225), remaining reserves, 3,180,232,515 barrels (R. 226). Humble total reserves, 5,000,000,000 barrels (R. 91) remaining reserves, 3,600,000,000 barrels. (R. 91)

More important than the uncertainty of calculating reserves, however, is the unfairness of the distribution that would result if proration were on the basis of current reserves. Because of the recognized facts of the migration of oil from the western side of the field toward the center and the varying productive lives of the various portions of the field, it is obvious that a proration order based purely on current reserves or current acre feet of oil saturated sand would not achieve an equitable result, but would permit the leases in the center of the field, having the longest life, to produce many times the equivalent of the reserves originally beneath such leases.

Mr. Buck, the expert for Rowan & Nichols Oil Company, admitted unequivocally that an allocation based strictly on reserves would not be fair. (R. 295) Dr. Patten (R. 327-328) and Mr. Hudnall (R. 373) testified emphatically that a method of allocation based upon current reserves, which necessarily ignores the time element, would not produce a fair result, pointing out that because of the migration of oil, the percentage of the total current reserves of each lease was constantly changing, that the leases in the center of the field were gaining oil from the west and on a proration based on current reserves would produce not only currently many times what other leases are producing but would also produce much longer.

Proration entirely on the basis of current reserves would reduce the current allowables on wells on small tracts or on leases having thin sands so

low as to make it impossible for such leases to be drilled and oil produced therefrom. As we have pointed out, even the oil companies and the District Court shrank from eliminating a minimum allowable altogether.

No practical method of proration would permit leases in the field to recover *exactly* the amount of oil in place beneath such leases, and a certain amount of migration is inevitable, unless the center and eastearn portions of the field are completely closed down, while the western portions of the field are allowed to produce their oil. (R. 330) However, the Railroad Commission's plan of proration permits a recovery by each section of the field of substantially its reserves as near as this result can be practically achieved. (R. 404, 407)

The District Court apparently wholly disregarded the fact that *current* recovery and *total ultimate* recovery are necessarily determined by very different factors. By requiring in effect that the Railroad Commission prorate production on the basis of current reserves, the court sponsored a plan which will *inevitably* lead to a total ultimate recovery by leases which will be entirely out of proportion to the recoverable oil originally in place beneath such leases. In this respect, the District Court's decision is in conflict with the decisions of the Supreme Court of Texas that each lease owner is entitled to recover the equivalent of the recoverable oil beneath his

lease. *Brown* v. *Humble Oil & Refining Co.*, 126 Texas 296; *Gulf Land Co.* v. *Atlantic Refining Co.*, 134 Texas 59, as well as being in conflict with the decision of this court in *Railroad Commission of Texas* v. *Rowan & Nichols Oil Co.*, 310 U. S. 573, 60 S. Ct. 1021, 84 L. Ed. 983.

CONCLUSION

The decision of the District Court was rendered prior to the decision of this court in the case of *Railroad Commission of Texas* v. *Rowan & Nichols Oil Co.*, 310 U. S. 573, 60 S. Ct. 1021, 84 L. Ed. 983, and in view of the decisions of the District Court and the Circuit Court of Appeals in that case in effect requiring proration on the basis of current reserves. This court has since held that the Railroad Commission acted within the proper limits of its power in enforcing a proration plan which was over 98% on a per well basis, and it necessarily follows that a plan which is only 75% on the per well basis and 25% on the basis of factors which are not assailed, is valid.

For the reasons stated, it is respectfully submitted that the judgment of the District Court for the Western District of Texas should be reversed.

Respectfully submitted,

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APPENDIX

Texas Statutes Relevant to this Appeal

(All Statutes Listed Below are Included in Texas Revised Civil Statutes, 1925, or Amendments as Indicated, and are Compiled in Volume 17 of Vernon's Annotated Civil Statutes of Texas)

Art. 6014. "Waste"

The production, storage or transportation of crude petroleum oil or of natural gas in such manner, in such amount, or under such conditions as to constitute waste is hereby declared to be unlawful and is prohibited. The term "waste" among other things shall specifically include:

(a) The operation of any oil well or wells with an inefficient gas-oil ratio, and the Commission is hereby given authority to fix and determine by order such ratio; provided that the utilization for manu-

facture of natural gasoline of gas produced from an oil well within the permitted gas-oil ratio shall not be included within the definition of waste.

(b) The drowning with water of any stratum or part thereof capable of producing oil or gas, or both oil and gas, in paying quantities.

(c) Underground waste or loss however caused and whether or not defined in other subdivisions hereof.

(d) Permitting any natural gas well to burn wastefully.

(e) The creation of unnecessary fire hazards.

(f) Physical waste or loss incident to, or resulting from, so drilling, equipping, locating, spacing or operating well or wells as to reduce or tend to reduce the total ultimate recovery of crude petroleum oil or natural gas from any pool.

(g) Waste or loss incident to, or resulting from, the unnecessary, inefficient, excessive or improper use of the reservoir energy, including the gas energy or water drive, in any well or pool; however, it is not the intent of this Act to require repressuring of an oil pool or that the separately owned properties in any pool be unitized under one management, control or ownership.

(h) Surface waste or surface loss, including the

storage either permanent or temporary of crude petroleum oil, or the placing any product thereof, in open pits or earthen storage, and all other forms of surface waste or surface loss, including unnecessary or excessive surface losses, or destruction without beneficial use, either of crude petroleum oil or of natural gas.

(i) The escape into the open air, from a well producing both oil and gas, of natural gas in excess of the amount which is necessary in the efficient drilling or operation of the well.

(j) The production of crude petroleum oil in excess of transportation or market facilities or reasonable market demand. The Commission may determine when such excess production exists or is imminent and ascertain the reasonable market demand.

The Commission may consider any or all of the above definitions, whenever the facts, circumstances or conditions make them applicable, in making rules, regulations or orders to prevent waste of oil or gas.

Nothing in this Section shall be construed to authorize limitation of production of marginal wells, as such marginal wells are defined by Statute, below the amount fixed by Statute for such wells. (Acts 1919, p. 285; Acts 1929, 41st Leg., p. 694, ch. 313; Acts 1931, 42nd Leg., 1st C. S., p. 46, ch. 26, sec. 1; Acts 1932, 42nd Leg., 4th C.S., p. 3, ch. 2, sec. 1; Acts 1935, 44th Leg., p. 180, ch. 76, sec. 2.)

Art. 6029. Rules and Regulations

The Commission shall make and enforce rules, regulations or orders for the conservation of crude petroleum oil and natural gas and to prevent the waste thereof, including rules, regulations or orders for the following purposes:

(1) To prevent the waste, as hereinbefore defined, of crude petroleum oil and natural gas in drilling and producing operations and in the storage, piping and distribution thereof.

(2) To require dry or abandoned wells to be plugged in such way as to confine crude petroleum oil, natural gas, and water in the strata in which they are found and to prevent them from escaping into other strata.

(3) For the drilling of wells and preserving a record thereof.

(4) To require wells to be drilled and operated in such manner as to prevent injury to adjoining property.

(5) To prevent crude petroleum oil and natural gas and water from escaping from the strata in which they are found into other strata.

(6) To establish rules and regulations for shooting wells and for separating crude petroleum oil from natural gas.

(7) To require records to be kept and reports made.

(8) It shall do all things necessary for the conservation of crude petroleum oil and natural gas and to prevent the waste thereof, and shall make and enforce such rules, regulations or orders as may be necessary to that end.

(9) To provide for the issuance of permits, tenders, and other evidences of permission when the issuance of such permits, tenders, or permission is necessary or incident to the enforcement of its rules, regulations, or orders for the prevention of waste; (Acts 1919, p. 285; Acts 1931, 42nd Leg., 1st C.S., p. 46, ch. 26, sec. 15; Acts 1932, 42nd Leg., 4th C.S., p. 3, ch. 2, sec. 7; Acts 1935, 44th Leg., p. 180, ch. 76, sec. 4.)

Art. 6042. Powers Not Limited

Particular powers herein granted to the Commission shall not be construed to limit the general powers conferred by law, and until set aside or vacated by some order or decree of a court of competent jurisdiction, all orders of the Commission as to any matter within its jurisdiction shall be accepted as prima facie evidence of their validity.

Art. 6049b. Marginal Wells Defined: Curtailing Production

Sec. 1. The term "Marginal Well" as used herein means a pumping oil well capable, under normal

unrestricted operating conditions, of producing such daily quantities of oil as herein set out as would be damaged, or result in a loss of production ultimately recoverable, or cause the premature abandonment of same, if its daily production were artificially curtailed. The following described wells shall be deemed "Marginal Wells" in this State:

(a) Any pumping oil well within this State having a daily capacity for production of ten (10) barrels or less, averaged over the preceding thirty (30) consecutive days, producing from a depth of two thousand (2,000) feet or less:

(b) Any pumping oil well within this State havhaving a daily capacity for production of twenty (20) barrels or less, averaged over the preceding thirty (30) consecutive days producing from a horizon deeper than two thousand (2,000) feet and less in depth than four thousand (4,000) feet:

(c) Any pumping oil well within this State having a daily capacity for production of twenty-five (25) barrels or less, averaged over the preceding thirty (30) consecutive days, producing from a horizon deeper than four thousand feet (4,000) and less in depth than six thousand (6,000) feet:

(d) Any pumping oil well within this State having a daily capacity for production of thirty (30) barrels or less, averaged over the preceding thirty (30) consecutive days, producing from a horizon deeper than six thousand (6,000) feet and less in depth than eight thousand (8,000) feet;

(e) Any pumping oil well within this State having a daily capacity for production of thirty-five (35) barrels or less, averaged over the preceding thirty (30) consecutive days, producing from a horizon deeper than eight thousand (8,000) feet. (As amended Acts 1933, 43rd Leg., p. 215, ch. 97.)

Sec. 2. To artificially curtail the production of any "Marginal Well" below the marginal limit as set out above prior to its ultimate plugging and abandonment is hereby declared to be waste, and no rule or order of the Railroad Commission of Texas, or other constituted legal authority, shall be entered requiring restriction of the production of any "Marginal Well' as herein defined. (Acts 1931, 42nd Leg., p. 92, ch. 58.)

Art. 6049c. Oil and Gas Conservation, Powers and Duties of Railroad Commission

Powers and duties of Railroad Commission

Section 5. The Commission shall have the power, and it shall be its duty, from time to time to inquire into the production, storage, transportation, refining, reclaiming, treating, marketing or processing of crude petroleum oil and natural gas, and the reasonable market demand therefor, in order to determine whether or not waste exists or is imminent, or whether the oil and gas conservation laws of Texas or the rules, regulations, or orders of the Commission promulgated thereunder are being violated. . . . . (As amended Acts 1932, 42nd Leg., 4th C.S.,

p. 3, Ch. 2, sec. 3; Acts 1934, 43rd Leg., 2nd C.S., p. 104, ch. 45, sec. 1; Acts 1935, 44th Leg., p. 180, ch. 76, sec. 5.)

Hearing by Commission as to waste

Sec. 7. Upon the initiative of the Commission, or upon the verified complaint of any person interested in the subject matter, that waste of crude petroleum oil or natural gas is taking place in this State, or is reasonably imminent, the Commission may hold a hearing, at such time and place as it may fix, to determine whether or not waste is taking place, or is reasonably imminent and what, if any, rule, regulation, or order should be made or what, if any, other action should be taken to correct, prevent or lessen such waste. At said hearing all parties interested shall be entitled to be heard and introduce evidence and to require the attendance of witnesses, and the production of evidence may be required as provided by law. If upon the hearing the Commission shall find that waste is taking place, or is reasonably imminent, the Commission shall make such rule, regulation or order as in its judgment is reasonably required to correct, prevent or lessen such waste.

In the event any such rule, regulation or order which the Commission may adopt provides for the limitation or fixing of the production of crude petroleum oil, or of natural gas from wells producing gas only, in any pool or portion thereof, the Commission shall distribute, prorate, or otherwise apportion or

allocate, the allowable production among the various producers on a reasonable basis.

From and after the promulgation of any rule, regulation or order of the Commission it shall be the duty of each person affected thereby to comply with the same. (As amended Acts 1932; 42nd Leg., 4th C.S., p. 3, ch. 2, sec. 5; Acts 1935, 44th Leg., p. 180, ch. 76, sec. 6.)

Suits authorized by persons aggrieved by Commission's regulations or orders

Sec. 8. Any interested person affected by the conservation laws of this State relating to crude petroleum oil or natural gas, and the waste thereof, including this Act, or by any rule, regulation or order made or promulgated by the Commission thereunder, and who may be dissatsified therewith, shall have the right to file a suit in a Court of competent jurisdiction in Travis County, Texas, and not elsewhere, against the Commission, or the members thereof, as defendants, to test the validity of said laws, rules, regulations or orders. Such suit shall be advanced for trial and be determined as expeditiously as possible and no postponement thereof or continuance shall be granted except for reasons deemed imperative by the Court. In all such trials, the burden of proof shall be upon the party complaining of such laws, rule, regulation or order; and such laws, rule, regulation or order so complained of shall be deemed prima facie valid. (As amended Acts 1932, 42nd Leg., 4th C.S., p. 3, ch. 2, sec. 8; Acts 1935; 44th Leg., p. 180, ch. 76, sec. 14.)